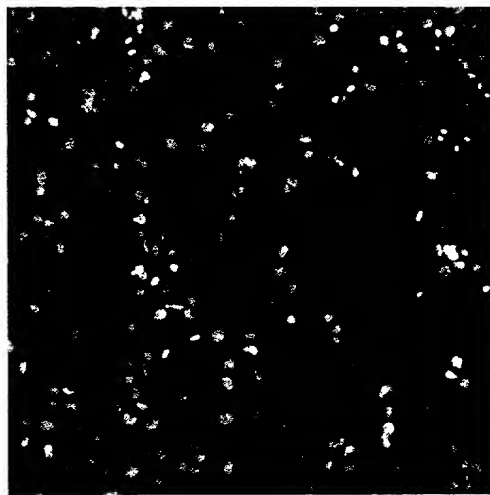
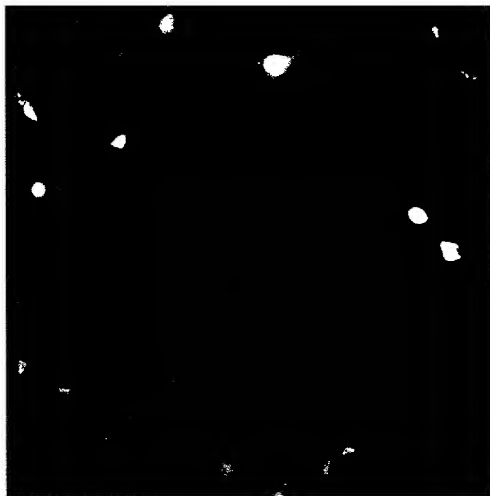


Figure 1



Hoechst 33342 Stain



Green Fluorescent Protein

Figure 2

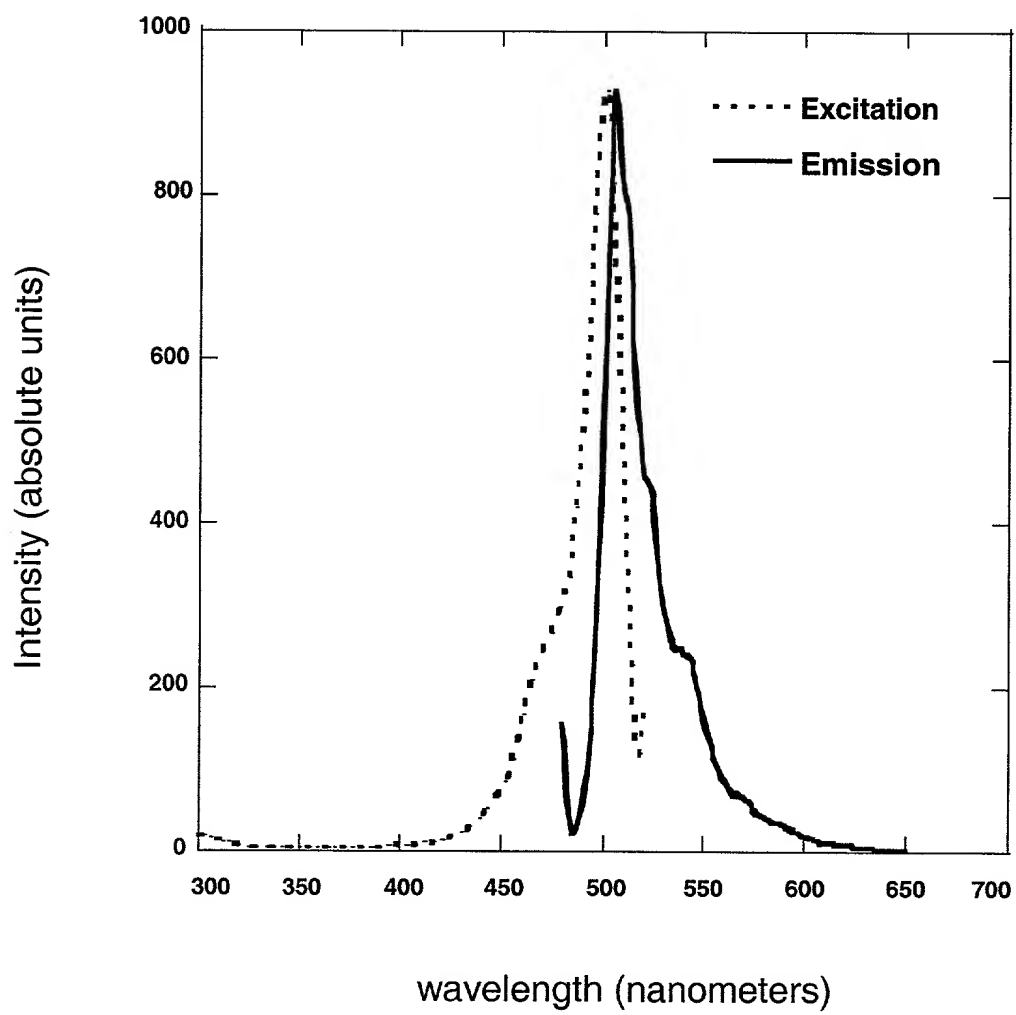


Figure 3

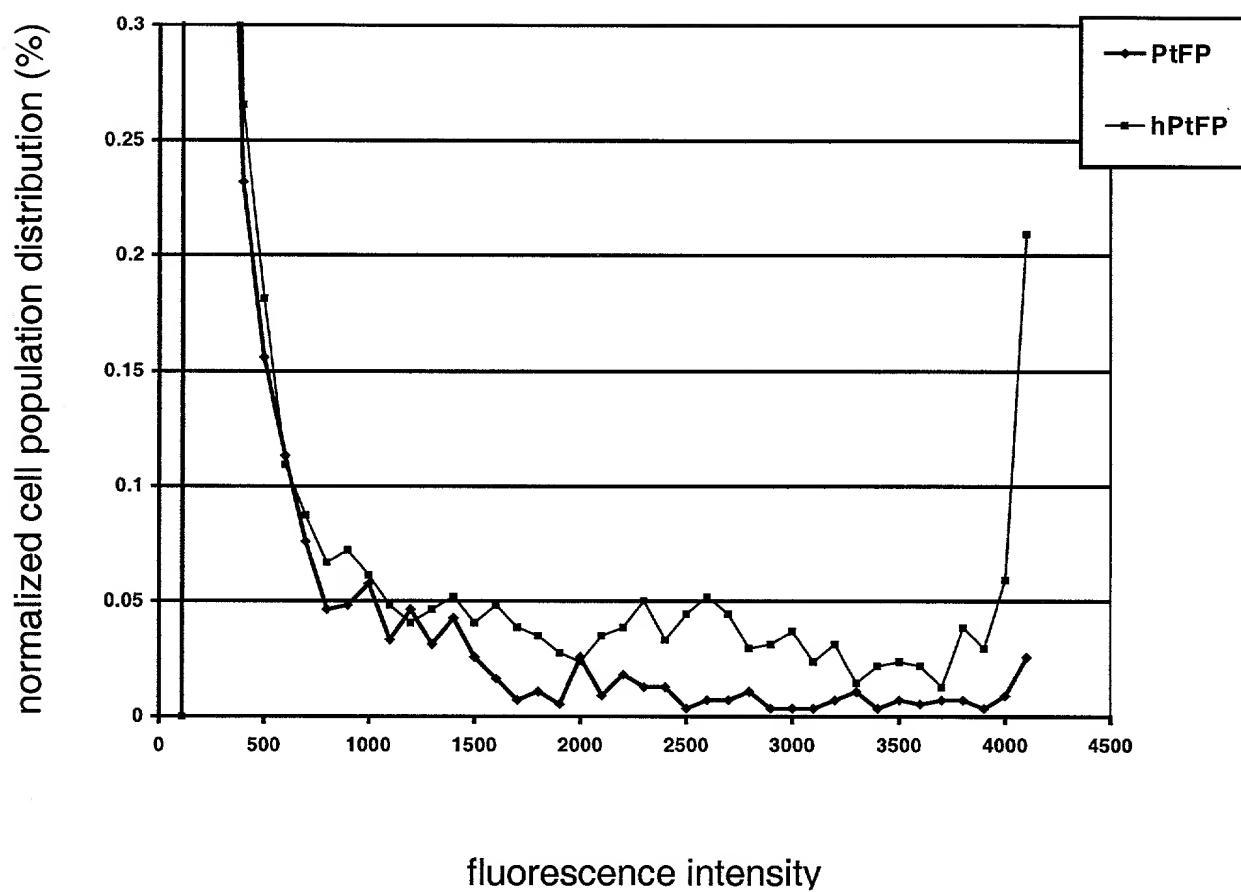
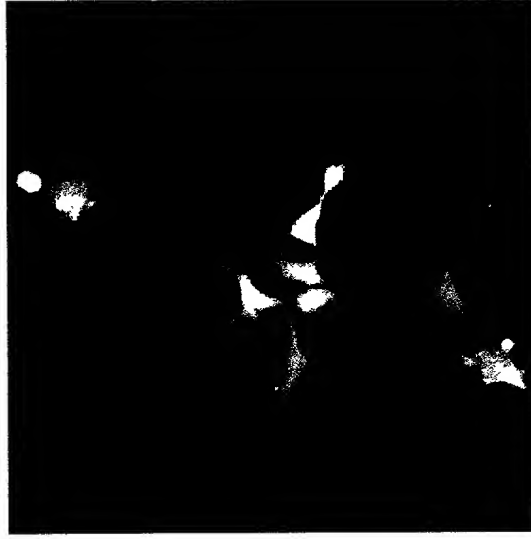
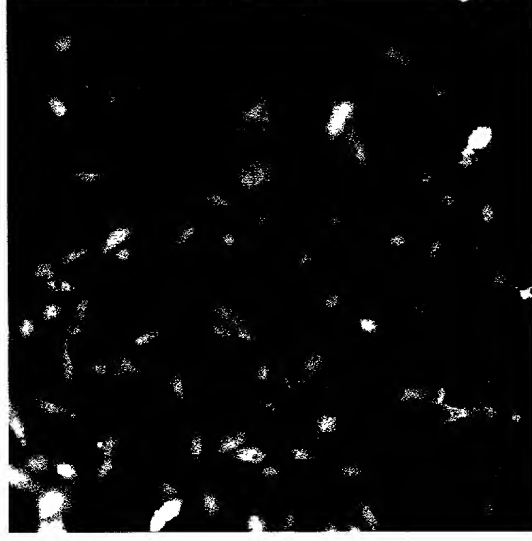


Figure 4



HEK 293 cells



A549 cells

Figure 5

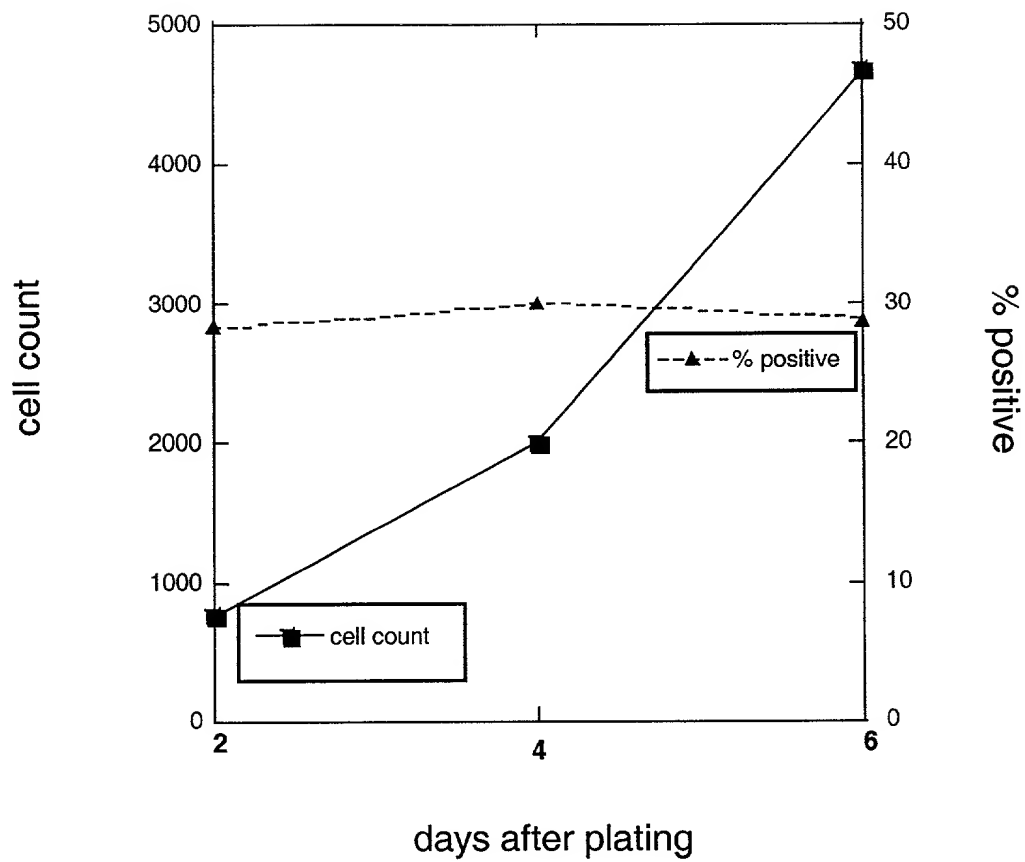
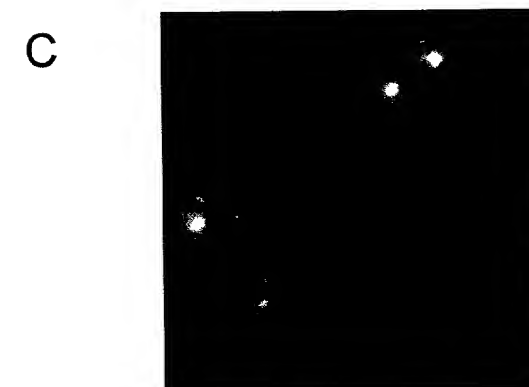
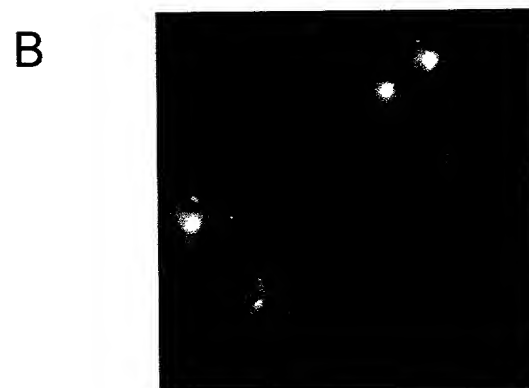
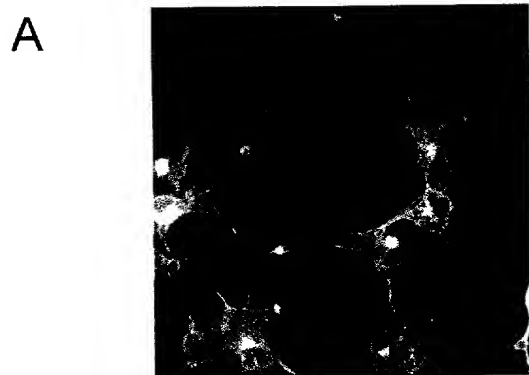


Figure 6



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Figure 7

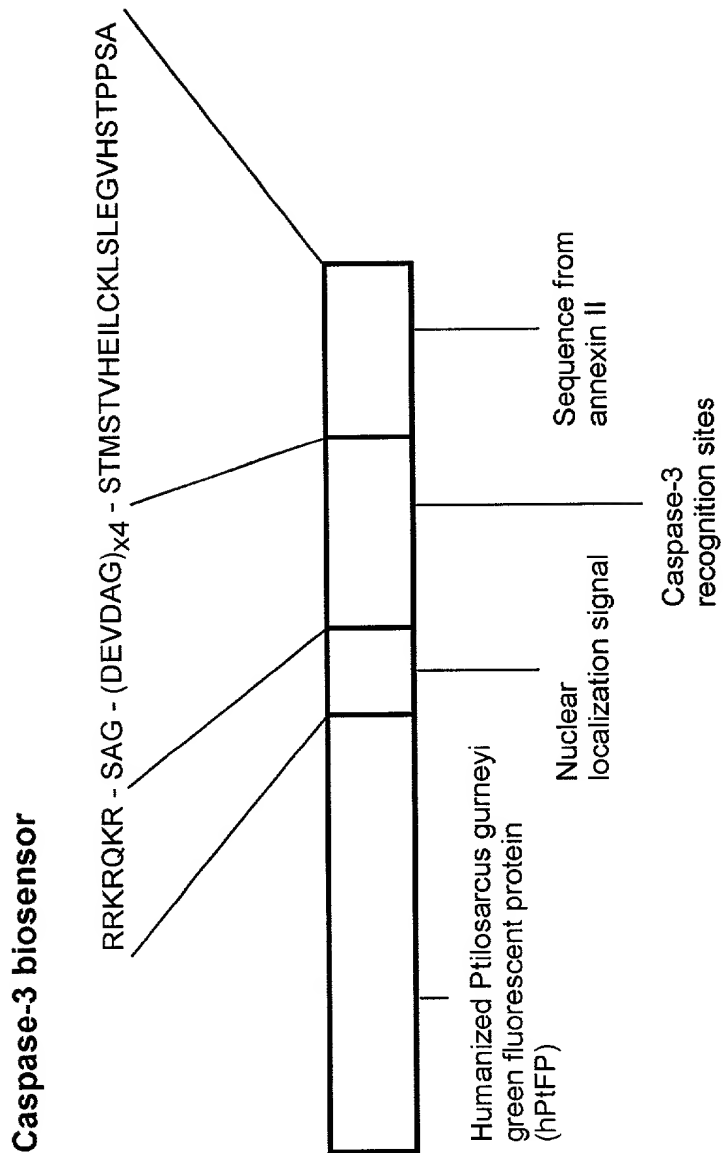


Figure 8

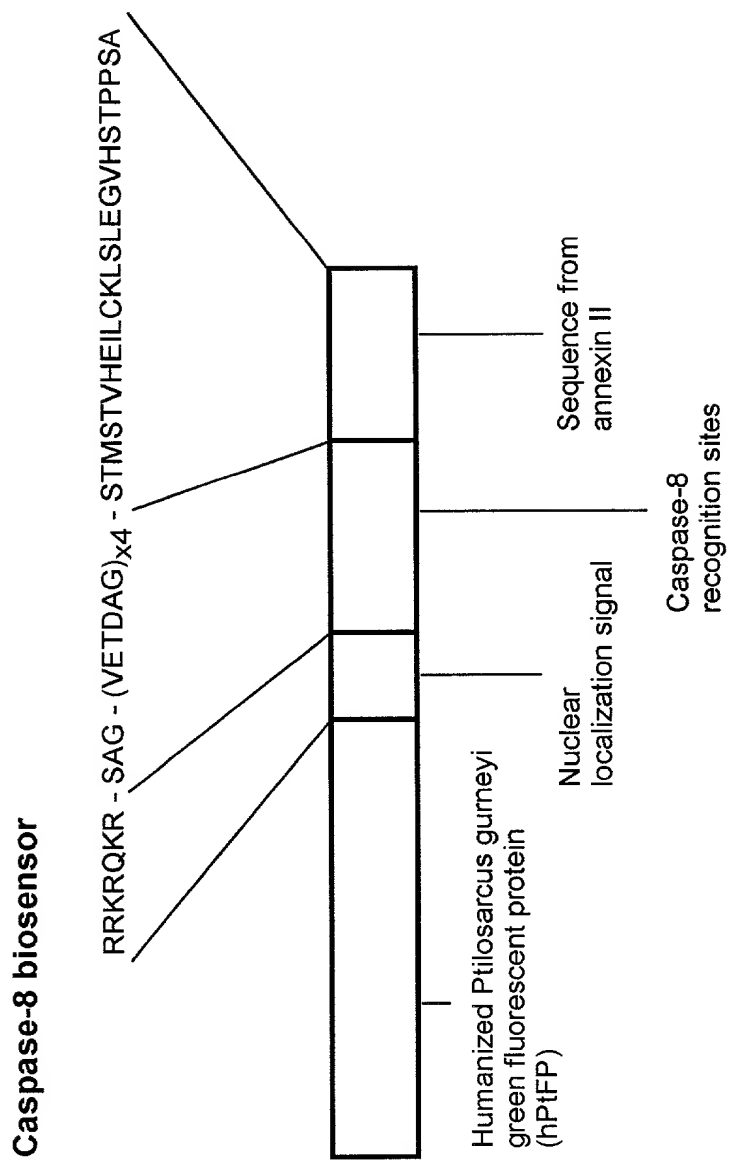


Figure 9

		Met																				
		Met	Val																			
PtFFP	+1			Asn	Arg	Asn	Val	Leu	Lys	Asn	Thr	Gly	Leu	Lys	Glu	Ile	Met	Ser	Ala	Lys	Ala	
hPtFFP	1	ATG	GTG	AAC	CGC	AAC	GTA	TTA	AAG	AAC	ACT	GGA	CTG	AAA	GAG	ATT	ATG	TCG	GCA	AAA	GCT	
		***		*			* * *				*	*		*		*		***	*	*	*	
PtFFP	+1	Ser	Val	Glu	Gly	Ile	Val	Asn	Asn	His	Val	Phe	Ser	Met	Glu	Gly	Phe	Gly	Lys	Gly	Asn	
hPtFFP	61	AGC	GTT	GAA	GGA	ATC	GTG	AAC	AAT	CAC	GTT	TTT	TCC	ATG	GAA	GGA	TTT	GGA	AAA	GGC	AAT	
		*	*	*				*		*	*	**		*	*	*	*	*	*	*	*	
PtFFP	+1	Val	Leu	Phe	Gly	Asn	Gln	Leu	Met	Gln	Ile	Arg	Val	Thr	Lys	Gly	Gly	Pro	Leu	Pro	Phe	
hPtFFP	121	GTA	TTA	TTT	GGA	AAC	CAA	TTG	ATG	CAA	ATC	CGG	GTT	ACA	AAG	GGA	GGT	CCG	TTG	CCA	TTC	
		* * *	*	*			* * *			*			*	*		*	*	*	*	*	*	
PtFFP	+1	Ala	Phe	Asp	Ile	Val	Ser	Ile	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
hPtFFP	181	GCT	TTC	GAT	ATT	GTT	TCC	ATA	GCT	TTC	CAA	TAC	GGG	AAT	CGC	ACT	TTC	ACG	AAA	TAC	CCA	
		*		*	*	*	**	*	*		*		*	*	*	*	*	*	*	*	*	
PtFFP	+1	Asp	Asp	Ile	Ala	Asp	Tyr	Phe	Val	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Phe	Tyr	Glu	Arg	Asn	
hPtFFP	241	GAC	GAC	ATT	GCG	GAC	TAC	TTT	GTT	CAA	TCA	TTC	CCG	GCT	GGA	TTT	TTC	TAC	GAA	AGA	AAT	
				*	*			*	*	*	***		*	*	*	*	*		*	*	*	
PtFFP	+1	Leu	Arg	Phe	Glu	Asp	Gly	Ala	Ile	Val	Asp	Ile	Arg	Ser	Asp	Ile	Ser	Leu	Glu	Asp	Asp	
hPtFFP	301	CTA	CGC	TTT	GAA	GAT	GGC	GCC	ATT	GTT	GAC	ATT	CGT	TCA	GAT	ATA	AGT	TTA	GAA	GAT	GAT	
		* * *	*	*	*	*		*	*	*	*		*	***	*	*	*	*	*	*	*	
PtFFP	+1	Lys	Phe	His	Tyr	Lys	Val	Glu	Tyr	Arg	Gly	Asn	Gly	Phe	Pro	Ser	Asn	Gly	Pro	Val	Met	
hPtFFP	361	AAG	TTC	CAC	TAC	AAA	GTG	GAG	TAT	AGA	GGC	AAC	GGT	TTC	CCT	AGT	AAC	GGA	CCC	GTG	ATG	
						*				*	*	*		*		*		*	*	*	*	
PtFFP	+1	Gln	Lys	Ala	Ile	Leu	Gly	Met	Glu	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Ser	Gly	Val	
hPtFFP	421	CAA	AAA	GCC	ATC	CTC	GGC	ATG	GAG	CCA	TCG	TTT	GAG	GTG	GTC	TAC	ATG	AAC	AGC	GGC	GTT	
		*	*			*				***	*		*	*	*	*	*	*	*	*	*	
PtFFP	+1	Leu	Val	Gly	Glu	Val	Asp	Leu	Val	Tyr	Lys	Leu	Glu	Ser	Gly	Asn	Tyr	Tyr	Ser	Cys	His	
hPtFFP	481	CTG	GTG	GGC	GAA	GTA	GAT	CTC	GTT	TAC	AAA	CTC	GAG	TCA	GGG	AAC	TAT	TAC	TCG	TGC	CAC	
				*	*	*	*	*	*		*	*	*	***			*		***			
PtFFP	+1	Met	Lys	Thr	Phe	Tyr	Arg	Ser	Lys	Gly	Gly	Val	Lys	Glu	Phe	Pro	Glu	Tyr	His	Phe	Ile	
hPtFFP	541	ATG	AAA	ACG	TTT	TAC	AGA	TCC	AAA	GGT	GGA	GTG	AAA	GAA	TTC	CCG	GAA	TAT	CAC	TTT	ATC	
		*	*	*			* * *	*	*	*	*		*	*		*	*	*	*	*	*	
PtFFP	+1	His	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	Glu	Glu	Gly	Ser	Phe	Val	Glu	Gln	His	Glu	Thr	
hPtFFP	601	CAT	CAT	CGT	CTG	GAG	AAA	ACC	TAC	GTG	GAA	GAA	GGA	AGC	TTC	GTG	GAA	CAA	CAC	GAG	ACG	
		*	*	*			*			*	*	*	*		*		*	*	*	*	*	
PtFFP	+1	Ala	Ile	Ala	Gln	Leu	Thr	Thr	Ile	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	***	
hPtFFP	661	GCC	ATT	GCA	CAA	CTG	ACC	ACA	ATT	GGA	AAA	CCT	CTG	GGC	TCC	CTT	CAT	GAA	TGG	GTG	TAG	
		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	

Figure 10

HindIII

```

+1      M   V   N   R   N   V   L   K   N   T   G
1  AAG CTT GCC ACC ATG GTG AAC CGG AAC GTG CTG AAG AAC ACC GGC
   TTC GAA CGG TGG TAC CAC TTG GCC TTG CAC GAC TTC TTG TGG CCG

+1  L   K   E   I   M   S   A   K   A   S   V   E   G   I   V
46  CTG AAG GAG ATC ATG AGC GCC AAG GCC AGC GTG GAG GGC ATC GTG
   GAC TTC CTC TAG TAC TCG CGG TTC CGG TCG CAC CTC CCG TAG CAC

+1  N   N   H   V   F   S   M   L   G   F   G   K   G   N   V
91  AAC AAC CAC GTG TTC AGC ATG GAG GGC TTC GGC AAG GGC AAC GTG
   TTG TTG GTG CAC AAG TCG TAC CTC CCG AAG CCG TTC CCG TTG CAC

+1  L   F   G   N   Q   L   M   Q   I   R   V   T   K   G   G
136 CTG TTC GGC AAC CAG CTG ATG CAG ATC CGG GTG ACC AAG GGC GGC
   GAC AAG CCG TTG GTC GAC TAC GTC TAG GCC CAC TGG TTC CCG CCG

+1  P   L   P   F   A   F   D   I   V   S   I   A   F   Q   Y
181 CCT CTG CCC TTC GCC TTC GAC ATC GTG AGC ATC GCC TTC CAG TAC
   GGA GAC GGG AAG CGG AAG CTG TAG CAC TCG TAG CGG AAG GTC ATG

+1  G   N   R   T   F   T   K   Y   P   D   D   I   A   D   Y
226 GGC AAC CGG ACC TTC ACC AAG TAT CCC GAC GAC ATC GCC GAC TAC
   CCG TTG GCC TGG AAG TGG TTC ATA GGG CTG CTG TAG CGG CTG ATG

+1  F   V   Q   S   F   P   A   G   F   F   Y   E   R   N   L
271 TTC GTG CAG AGC TTC CCT GCC GGC TTC TTC TAC GAG CGG AAC CTG
   AAG CAC GTC TCG AAG GGA CGG CCG AAG AAG ATG CTC GCC TTG GAC

+1  R   F   E   D   G   A   I   V   D   I   R   S   D   I   S
316 CGG TTC GAG GAC GGC GCC ATC GTG GAC ATC CGG AGC GAC ATC AGC
   GCC AAG CTC CTG CCG CGG TAG CAC CTG TAG GCC TCG CTG TAG TCG

+1  L   E   D   D   K   F   H   Y   K   V   E   Y   R   G   N
361 CTG GAG GAC GAC AAG TTC CAC TAC AAG GTG GAG TAC CGC GGC AAC
   GAC CTC CTG CTG TTC AAG GTG ATG TTC CAC CTC ATG GCG CCG TTG

+1  G   F   P   S   N   G   P   V   M   Q   K   A   I   L   G
406 GGC TTC CCT AGC AAC GGC CCT GTG ATG CAG AAG GCC ATC CTG GGC
   CCG AAG GGA TCG TTG CCG GGA CAC TAC GTC TTC CGG TAG GAC CCG

+1  M   E   P   S   F   E   V   V   Y   M   N   S   G   V   L
451 ATG GAG CCC AGC TTC GAG GTG GTG TAC ATG AAC AGC GGC GTG CTG
   TAC CTC GGG TCG AAG CTC CAC CAC ATG TAC TTG TCG CCG CAC GAC

+1  V   G   E   V   D   L   V   Y   K   L   E   S   G   N   Y
496 GTG GGC GAG GTG GAC CTG GTG TAC AAG CTG GAG AGC GGC AAC TAC
   CAC CCG CTC CAC CTG GAC CAC ATG TTC GAC CTC TCG CCG TTG ATG

+1  Y   S   C   H   M   K   T   F   Y   R   S   K   G   G   V

```

20170726 04:40

Figure 10 (continued)

541 TAC AGC TGC CAC ATG AAG ACC TTC TAC CGG AGC AAG GGC GGC GTG
 ATG TCG ACG GTG TAC TTC TGG AAG ATG GCC TCG TTC CCG CCG CAC

+1 K E F P E Y H F I H H R L E K

586 AAG GAG TTC CCT GAG TAC CAC TTC ATC CAC CAC CGG CTG GAG AAG
 TTC CTC AAG GGA CTC ATG GTG AAG TAG GTG GTG GCC GAC CTC TTC

+1 T Y V E E G S F V E Q H E T A

631 ACC TAC GTG GAG GAG GGC AGC TTC GTG GAG CAG CAC GAG ACC GCC
 TGG ATG CAC CTC CTC CCG TCG AAG CAC CTC GTC GTG CTC TGG CGG

+1 I A Q L T T I G K P L G S L H

676 ATC GCC CAG CTG ACC ACC ATC GGC AAG CCT CTG GGC AGC CTG CAC
 TAG CGG GTC GAC TGG TGG TAG CCG TTC GGA GAC CCG TCG GAC GTG

NotI
 ~~~~~

+1 E W V \*

721 GAG TGG GTG TAA AGC GGC CGC  
 CTC ACC CAC ATT TCG CCG GCG

099789 0403  
 20770 2582660

**The coding sequence (from start codon to stop codon):**

atggtgaaccggaacgtgctgaagaacaccggcctgaaggagatcatgagcgccaag  
gccagcgtggagggcatcgtgaacaaccacgtgttcagcatggagggcttcggcaag  
ggcaacgtgctgttcggcaaccagctgatgcagatccgggtgaccaagggcggcct  
ctgcccttcgccttcgacatcgtgagcatcgccctccagtacggcaaccggaccttc  
accaagtatcccgacgacatcgccgactacttcgtgcagagcttccttgcggcttc  
ttctacgagcggaacctgcggttcgaggacggcgccatcgtggacatccggagcgac  
atcagcctggaggacgacaagttccactacaaggtggagtaccgcggaacggcttc  
cctagcaacggccctgtgatgcagaaggccatcctgggcatggagcccagcttcgag  
gtggtgtacatgaacagcggcgtgctggtgggcgaggtggacctggtgtacaagctg  
gagagcggcaactactacagctgccacatgaagaccttctaccggagcaagggcggc  
gtgaaggagtccctgagtaccacttcattccaccaccggctggagaagacctacgtg  
gaggagggcagcttcgtggagcagcacgagaccgccatcgcccagctgaccaccatc  
ggcaagcctctgggcagcctgcacgagtgggtgtaa

Figure 11

aagcttgccaccatggtgaaccggaacgtgctgaagaacacccggcctgaaggagatc  
atgagcgccaaggccagcgtggagggcatcgtgaacaaccacgtgttcagcatggag  
ggcttcggcaagggaacgtgctgttcggcaaccagctgatgcagatccgggtgacc  
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cctgccgggcttcttctacgagcggaacctgcgggttcgaggacggcgccatcgtggac  
atccggagcgacatcagcctggaggacgacaagttccactacaaggtggagtaccgc  
ggcaacggcttccctagcaacggccctgtgatgcagaaggccatcctgggcatggag  
cccagcttcgaggtggtgtacatgaacagcggcgtgctggtgggcgaggtggacctg  
gtgtacaagctggagagcggcaactactacagctgccacatgaagaccttctaccgg  
agcaaggcgccgtgaaggagtccctgagtaccacttcatccaccaccggctggag  
aagacctacgtggaggaggcagcttcgtggagcagcacgagaccgcatcgcccag  
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Figure 12

# Figure 13

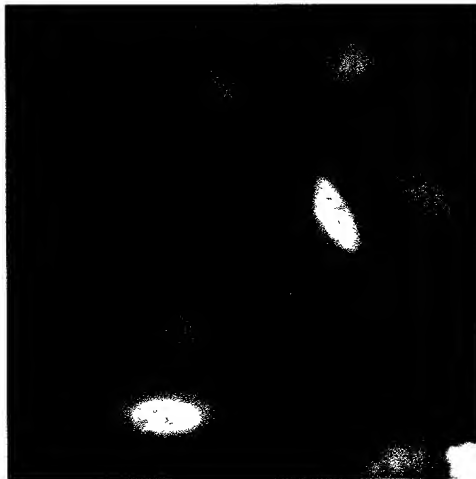
| hPitFP | Fluorescent?<br>+++++++ | MV | NR | NVL | KNT | 10 | GLK | E | I | M | S | A | 224 | QL | T | I | G | K | P | L | G | S | L | H | E | W | V | 239 |
|--------|-------------------------|----|----|-----|-----|----|-----|---|---|---|---|---|-----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
| TS1    | +                       | MV |    |     |     |    | L   | K | N | T |   |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS2    | +                       | MV |    |     |     |    | N   | T |   |   |   |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS3    | +                       | MV |    |     |     |    | G   | L | K |   |   |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS4    | -                       |    |    |     |     |    | M   | V | K |   |   |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS5    | +                       | MV |    |     |     |    | N   | R | N | V | L | K | N   | T  |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS6    | ++                      | MV |    |     |     |    | N   | R | N | V | L | K | N   | T  |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS7    | +                       | MV |    |     |     |    | N   | R | N | V | L | K | N   | T  |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS8    | +                       | MV |    |     |     |    | N   | R | N | V | L | K | N   | T  |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS9    | +                       | MV |    |     |     |    | N   | R | N | V | L | K | N   | T  |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS10   | -                       |    |    |     |     |    | M   | V | G | L | K |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| TS11   | -                       |    |    |     |     |    | M   | V | K |   |   |   |     |    |   |   |   |   |   |   |   |   |   |   |   |   |   |     |

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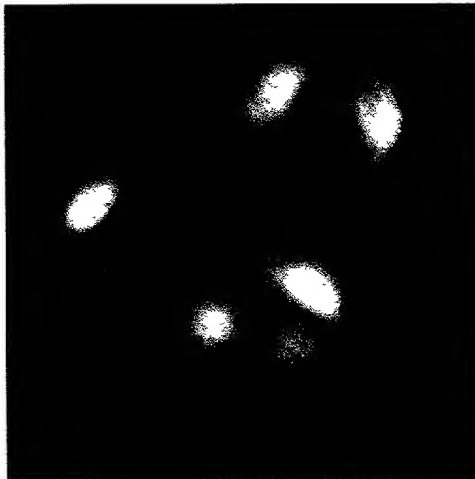
Figure 14



no treatment



Staurosporine  
10 nM 6 hours



Staurosporine  
1 nM 24 hours

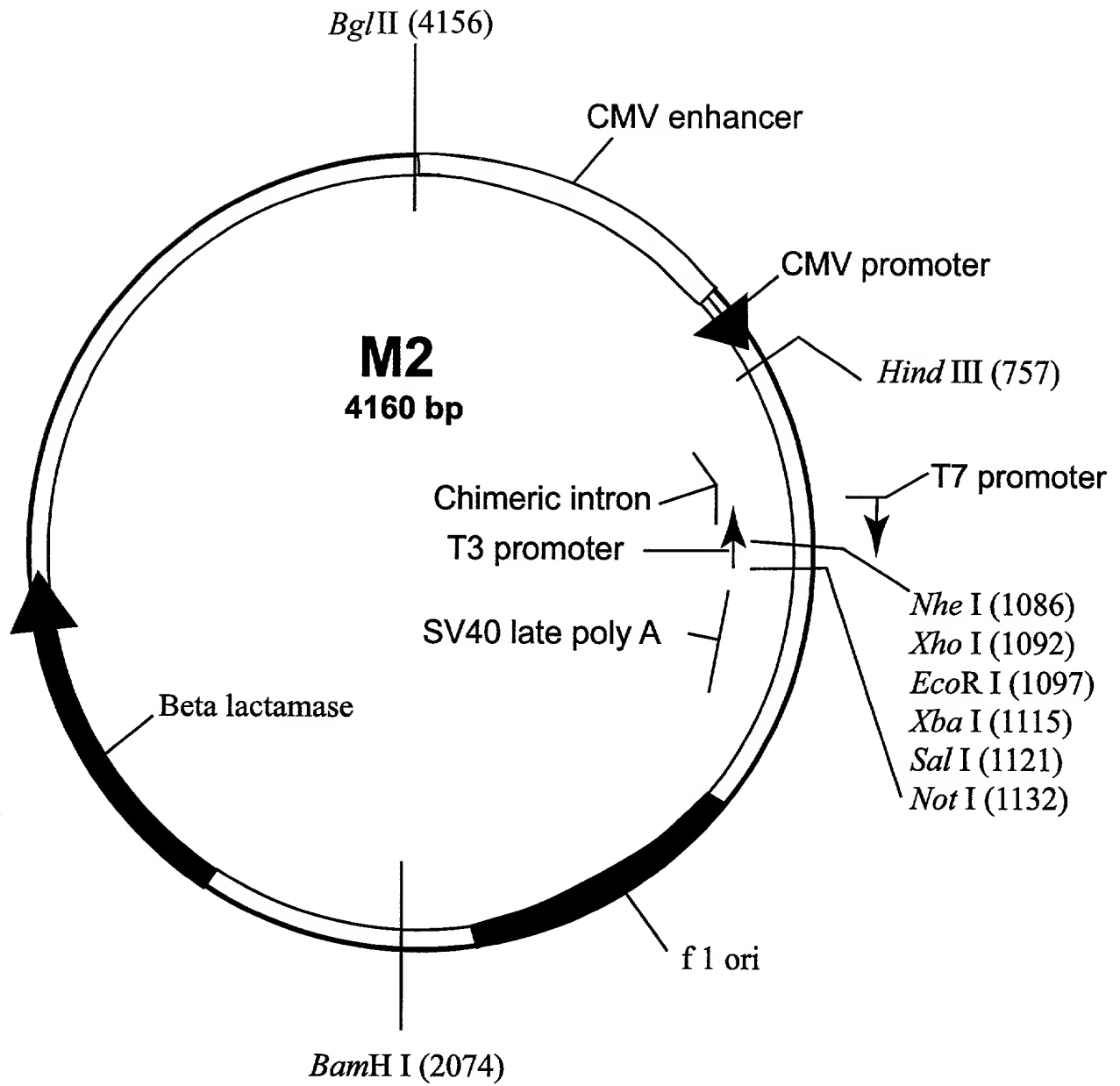
09977897.011102

|     |        |          |     |        |          |     |        |          |     |        |          |
|-----|--------|----------|-----|--------|----------|-----|--------|----------|-----|--------|----------|
| UUU | F 0.45 | (185619) | UCU | S 0.18 | (161556) | UAU | Y 0.43 | (133427) | UGU | C 0.45 | (108740) |
| UUC | F 0.55 | (225633) | UCC | S 0.22 | (192616) | UAC | Y 0.57 | (174805) | UGC | C 0.55 | (134523) |
| UUA | L 0.07 | (79303)  | UCA | S 0.15 | (128429) | UAA | * 0.29 | (8187)   | UGA | * 0.50 | (14381)  |
| UUG | L 0.13 | (135218) | UCG | S 0.06 | (49456)  | UAG | * 0.21 | (5913)   | UGG | W 1.00 | (142435) |
| CUU | L 0.13 | (139009) | CCU | P 0.28 | (189374) | CAU | H 0.41 | (113684) | CGU | R 0.08 | (51100)  |
| CUC | L 0.20 | (210903) | CCC | P 0.33 | (219428) | CAC | H 0.59 | (162826) | CGC | R 0.19 | (118404) |
| CUA | L 0.07 | (75667)  | CCA | P 0.27 | (182506) | CAA | Q 0.26 | (130857) | CGA | R 0.11 | (68664)  |
| CUG | L 0.40 | (435317) | CCG | P 0.11 | (76684)  | CAG | Q 0.74 | (377006) | CGG | R 0.21 | (126679) |
| AUU | I 0.35 | (174021) | ACU | T 0.24 | (140780) | AAU | N 0.46 | (186915) | AGU | S 0.15 | (131222) |
| AUC | I 0.49 | (240138) | ACC | T 0.36 | (213626) | AAC | N 0.54 | (218376) | AGC | S 0.24 | (211962) |
| AUA | I 0.16 | (78463)  | ACA | T 0.28 | (162837) | AAA | K 0.42 | (262630) | AGA | R 0.20 | (125600) |
| AUG | M 1.00 | (244236) | ACG | T 0.12 | (69346)  | AAG | K 0.58 | (359627) | AGG | R 0.20 | (123646) |
| GUU | V 0.18 | (119013) | GCU | A 0.26 | (202329) | GAU | D 0.46 | (245435) | GGU | G 0.16 | (118798) |
| GUC | V 0.24 | (160764) | GCC | A 0.40 | (310626) | GAC | D 0.54 | (287040) | GGC | G 0.34 | (250410) |
| GUA | V 0.11 | (76398)  | GCA | A 0.23 | (173010) | GAA | E 0.42 | (317703) | GGA | G 0.25 | (180955) |
| GUG | V 0.47 | (317359) | GCG | A 0.11 | (82647)  | GAG | E 0.58 | (441298) | GGG | G 0.25 | (180001) |

Figure 15



Figure 16



20110126 16822660

tcaatattggccattagccatattattcattgggttatatagcataaatcaatattggct  
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ccaatatgaccgccatggtggcattgattattgactagttattaatagtaatacaattac  
ggggtcattagttcatagcccatatatggagttccgcgttacataacttacggtaaatag  
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Figure 17

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Figure 17 (continued)

Figure 18

